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Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington D.C.

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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

In the Matter of )  
Revision of the Commission's Rules ) CC Docket No. 94-102  
To Ensure Compatibility with Enhanced )  
911 Emergency Calling Systems )  
)  
) DA 98-2631  
)  
Carolina PCS I, LP's Request for )  
Waiver of Section 20.18(e) of the )  
Commission's Rules )

To: The Wireless Telecommunications Bureau

**PETITION TO WAIVE SECTION 20.18(e) OF THE COMMISSION'S RULES**

Carolina PCS I Limited Partnership, on behalf of its licensee subsidiaries<sup>1</sup> (collectively "Carolina"), and by its attorneys, pursuant to Section 1.3 of the Federal Communications Commission's ("Commission") rules, and the Commission's Public Notice released December 24, 1998 in the above-captioned docket ("Notice"), hereby requests a waiver of Sections 20.18(e) and (h) of the Commission's Rules.

In support of this petition, Carolina respectfully states as follows:

1. Carolina is a provider of Personal Communications Service ("PCS") in the following

Basic Trading Areas:

<u>BTA</u>	<u>Market</u>	<u>Callsign</u>
016	Andersen, SC	KNLF454
072	Charleston, SC	KNLF453

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<sup>1</sup> Carolina Phone - Sumter LLC, dba Carolina Phone; Carolina Phone - Florence LLC, dba Carolina Phone; Carolina Phone - Greenville LLC, dba Carolina Phone; Carolina Phone - Myrtle Beach LLC, dba Carolina Phone; Carolina Phone - Orangeburg LLC, dba Carolina Phone; Carolina Phone - Greenwood LLC, dba Carolina Phone; Carolina Phone - Columbia LLC, dba Carolina Phone; Carolina Phone - Charleston LLC, dba Carolina Phone; Carolina Phone - Anderson LLC, dba Carolina Phone; and North Carolina Wireless, Inc. (application for partial assignment pending).

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091	Columbia, SC	KNLF450
147	Florence, SC	KNLF448
177	Greenville, SC	KNLF449
178	Greenwood, SC	KNLF451
312	Myrtle Beach, SC	KNLF452
335	Orangeburg, SC	KNLF455
436	Sumter, SC	KNLF447

2. Section 20.18(e) of the Commission’s rules require that covered wireless carriers deploy Automatic Location Identification (“ALI”) as part of Enhanced 911 (“E911”) service beginning October 1, 2001. Pursuant to the rule, subject carriers are required to provide to the designated Public Safety Answering Point (“PSAP”) E911 Service, i.e., the location of all 911 calls by longitude and latitude in conformance with the Phase II accuracy requirements set forth in Section 20.18, subsection (h). That subsection requires compliance with the following accuracy and reliability standards: (1) For network-based technologies: 100 meters for 67 percent of calls, 300 meters for 95 percent of calls; (2) For handset-based technologies: 50 meters for 67 percent of calls, 150 meters for 95 percent of calls.<sup>2</sup>

3. Section 1.3 of the Commission’s rules provides that the Commission may grant a waiver “for good cause shown.”<sup>3</sup> In addition, in the Notice the Commission specifically established guidelines for the filing of E911 Phase II waiver requests in the above-captioned docket. The Commission recognized the concerns expressed by certain carriers that implementation of Phase II ALI by the established deadline may not be possible and thus stated its willingness to consider such issues in response to requests for waivers.

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<sup>2</sup>47 C.F.R. § 20.18 (h).

<sup>3</sup>47 C.F.R. § 1.3.

4. Carolina hereby requests that the Commission grant Carolina a waiver from the application of Section 20.18(h)(2) of the rules, which would require Carolina to provide a Phase II handset-based accuracy level of 50 meters for 66 percent of calls, and 150 meters for 95 percent of calls, by October 1, 2001. For the reasons set forth below, and in view of circumstances unique to Carolina, compliance with Sections 20.18 (e) and (h) of the rules, and more specifically Section 20.18(h)(2), would be unduly burdensome and impractical. Granting Carolina a waiver of Sections 20.18 (e) and (h) will allow Carolina to pursue a reasonable alternative to providing ALI as part of E911 Service.

**CAROLINA'S SYSTEM AND THE LEVEL OF ALI ACCURACY  
AND RELIABILITY IT PLANS TO OFFER**

5. Carolina's network utilizes the Global System for Mobile Communications ("GSM") air interface. In order to comply with the Commission's Phase II requirements, Carolina proposes a hybrid ALI approach that would involve both network and handset software upgrades. More specifically, Carolina proposes to implement a network software solution ("NSS") that would make use of existing network capabilities to provide immediate location information for all 911 calls on the network. NSS will provide location information with better than Phase I accuracy by providing, in addition to the caller's handset telephone number and nearest cell site or base station location, a radial location with an accuracy of 500 to 1000 meters for 67% of the calls. Carolina will commit to implement the NSS throughout its network, without regard to whether it has received any PSAP requests, by the fourth quarter of 2001.

6. In combination with the NSS, Carolina proposes to implement Enhanced Observed Time Difference of Arrival ("E-OTD") technology. E-OTD technology requires software upgrades to handsets and associated network upgrades, but does not involve hardware changes or

changes to antenna structures. E-OTD handsets will be available to meet the Commission's deadlines for handset deployment. The E-OTD solution will initially provide 100-meter accuracy (the accuracy requirement for network-based solutions), and should improve to match the 50-meter accuracy requirement for handset-based solutions within two years.

**A WAIVER ALLOWING CAROLINA TO USE THE NSS/E-OTD HYBRID  
APPROACH IS CONSISTENT WITH PRIOR COMMISSION POLICY**

7. The Commission has already granted a waiver of Sections 20.18(e) and (h) to VoiceStream Wireless ("VoiceStream"), a carrier similarly-situated to Carolina.<sup>4</sup> Carolina faces the same set of circumstances that were faced by VoiceStream. Both VoiceStream and Carolina, whose networks utilize a GSM air interface, face special circumstances because the NSS/E-OTD approach is the only ALI solution available in the near term for GSM systems. While GSM is a standard air interface in most countries, it is not widely used in the United States. The development of ALI capabilities for use by GSM carriers has lagged behind that for carriers using other interfaces that are more widely used here. In fact, little progress has been made by network location technology providers to even begin testing GSM solutions at this time.<sup>5</sup> It therefore does not appear that GPS-capable handsets for use with GSM networks will be available.

8. Based on the foregoing evidence, which was presented by Voice Stream and other parties in the *E911 Fourth MO&O* proceeding, the Commission concluded that "the NSS/E-OTD approach may be the only method available to GSM carriers for compliance with Phase II for

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<sup>4</sup>See Revision of the Commission's Rules To Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket No. 94-102, *Fourth Memorandum Opinion and Order*, FCC 00-326 (released September 8, 2000) (*E911 Fourth MO&O*).

<sup>5</sup>Id. ¶ 56.

some time.”<sup>6</sup> Carolina reasserts here the same evidence, and reaches the same logical conclusion that the NSS/E-OTD proposal is the only reasonable alternative for Carolina (as a GSM carrier) to comply with the Commission’s E911 Phase II requirements at this time.

**A WAIVER ALLOWING CAROLINA TO USE THE NSS/E-OTD APPROACH  
IS IN THE PUBLIC INTEREST**

9. In the *E911 Fourth MO&O*, the Commission determined that the NSS/E-OTD proposal represented a “promising approach that may offer significant public safety benefits... .”<sup>7</sup>

10. The Commission noted, for example, that: (i) NSS would be implemented by the fourth quarter 2001, without regard to whether a PSAP request has been received; (ii) NSS coverage would provide location information for 911 calls from non-ALI capable handsets immediately, as well as for roamers; (iii) NSS requires data from only a single cell; and (iv) NSS location capability should provide a notable improvement in accuracy and reliability over Phase I location information.<sup>8</sup>

11. In addition, the Commission found that “the use of E-OTD technology, in combination with the NSS ‘safety net,’ should provide substantial additional public safety benefits, such as rapid initial deployment of ALI capability with a relatively brief transition to even more precise levels of accuracy.”<sup>9</sup>

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<sup>6</sup>Id.

<sup>7</sup>Id at ¶57.

<sup>8</sup>Id at ¶¶ 57-58

<sup>9</sup>Id at ¶ 59.

12. Based on the foregoing findings, the Commission granted VoiceStream's request for a waiver subject to compliance with specific conditions set forth in the E911 Fourth MO&O.<sup>10</sup> Carolina urges a Commission finding that a grant of a waiver to Carolina is in the public interest as well.

**CAROLINA WILL COMPLY WITH THE SAME CONDITIONS IMPOSED ON  
VOICESTREAM IN THE E911 FOURTH MO&O**

13. Carolina faces the same problem with Phase II E911 compliance faced by VoiceStream, and presents here to the Commission the same set of circumstances that were addressed by the Commission in the *E911 Fourth MO&O*. Carolina represents that it will comply with the conditions listed by the Commission in that Order. Specifically, Carolina will:

- a. Deploy NSS capability by the fourth quarter of 2001 and have deployment throughout its network by or before December 31, 2001. This technology will provide location information with an accuracy and reliability of 1000 meters, or better, for 67 percent of calls.
- b. Carolina, by October 2001, will ensure that at least 50 percent of all new handsets activated are E-OTD capable, and by March 31, 2002, will ensure that 100 percent of all new handsets activated are E-OTD capable, assuming that handset vendors are able to supply such handsets in sufficient quantities to enable Carolina to do so.
- c. Effective October 1, 2001, Carolina will ensure that all new E-OTD capable handsets provide ALI with an accuracy of 100 meters 67 percent of the time and 300 meters 95 percent of the time.

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<sup>10</sup>Id at ¶60.

- d. Carolina will ensure that all new E-OTD capable handsets activated on or after October 1, 2003 comply with an accuracy requirement of 50 meters 67 percent of calls and 150 meters 95 percent of calls.
- e. Within six months after a PSAP request, or October 1, 2001, whichever is later, and subject to item (a) above, Carolina will implement any network or infrastructure upgrades necessary to provide Phase II handset-based service, and begin providing Phase II location information subject to the limitations set forth in items (b) and (c) above.
- f. Carolina will comply with the requirement to achieve 95 percent penetration of location-capable handsets among its subscribers no later than December 31, 2005.
- g. Carolina will report to the Wireless Telecommunications Bureau semiannually through October 1, 2003 on its experience with NSS and E-OTD, including actual deployment and the results of all tests and trials.

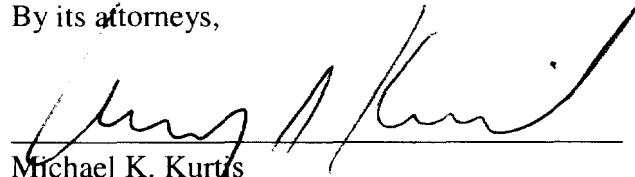
## CONCLUSION

In sum, Carolina believes that the grant of a waiver to permit it to use a hybrid NSS/E-OTD ALI approach to meet E911 Phase II requirements is both fair to Carolina, as a carrier whose network utilizes a GSM air interface, and is in the public interest. Accordingly, for the foregoing reasons, Carolina respectfully requests that the Commission grant it a waiver of Sections 20.18(e) and (h) of the rules with respect to Phase II compliance.

Respectfully submitted,

CAROLINA PCS I LIMITED PARTNERSHIP

By its attorneys,

A handwritten signature in black ink, appearing to read "Michael K. Kurtis", is written over a horizontal line.

Michael K. Kurtis

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February 6, 2001